

Appl. No. 10/522,708
Amendment dated December 5, 2008
Reply to Office Action of August 8, 2008

AMENDMENTS TO THE TITLE:

Please replace the title of this application on page 1 with the following rewritten version:

**AC/AC MULTIPLE-PHASE POWER CONVERTER CONFIGURED TO BE
MOUNTED ON A ~~AND~~ SUBSTRATE**

AMENDMENTS TO THE SPECIFICATION:

Please replace paragraph [0005] with the following rewritten version:

[0005] Second, an active-filter intelligent power module "A/F IPM" was proposed from G Mjumdar, et al, "Intelligent power module applications", IEEJ Technical Report No.842, pp. 13-19, Jun 2001. As is illustrated in Fig. 2, "A/F IPM" intends power factor correction on grid-side for single phase application. ~~In the active filter power module of Fig. 2, 100 designates a noise filter, 101 designates a diode bridge, 102 designates an IGBT, 103 designates a load, 104 designates a multiplier, 105 designates an Input current negative feedback circuit, 106 designates over temperature protection, 107 designates a short protection, 108 designates an output voltage Negative Feedback circuit, 109 designates over voltage protection, 110 designates a comparator, 111 designates an oscillator, 112 designates a buffer, 113 designates a control source voltage reduction protection, 114 designates an error output S1 and S2 designate switches, R1-R4 designate resistors, C1-C4 designate capacitors and L designates a reactor.~~

Problems of prior power modules are as follows:

- 1) In general, due to the standard design, external circuits are required for a specific application such as power factor correction on grid-side;
- 2) The design should be changed according to each of application categories such as a power supply type (200V, 100V, 400V, .. , or the like) and a load type such as a motor for 200V, or a motor for 400V. This results in increase in model types. This means the increase in cost of final products.
- 3) The proposed matrix module has advantage in that realization of three phase-three phase system can serve all systems. But, it cannot be applied to single phase/three phase system. Because the application is restricted only to three phase/three phase system and three phase/single phase system.
- 4) "A/F IPM" cannot be applied for three phase-three phase conversion for the purpose of specific applications.